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THIS IS UNEVALUATED INFORMATION

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USE OF LIQUEFIED GAS IN SOVIET AUTOMOBILE TRANSPORT

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Even before World War II, the Gor'kiy Automobile Plant imeni Molotov had begun to use liquefied gas an automobile fuel. During the war the conversion of automobiles to liquefied gas began on a wide scale. With the aid of the plant many large automobile managements of the city of Gor'kiy's and of Gor'kiy Oblast began to use this type of fuel extensively. As a result of the use of liquefied gas the gasoline saving in Gor'kiy's automobile transport amounts to about 10,000 tons per year.

The liquefied gas used in the Plant imeni Molotov consists mainly of unsaturated hydrocarbons of the aliphatic series: propylene, butylene, and amylene. A typical chemical composition of the gas by volume is as follows: 70-80 percent butylene, 3 percent propylene, 10-15 percent amylene and, 10-12 percent benzene and bituminous admixtures.

The low vapor tension of the gas creates difficulties at low temperatures with the gas feed from the gas cylinders to the engine and so, during the winter, it is necessary to maintain the increased pressure with the aid of a neutral gas, nitrogen, or to heat the cylinders with exhaust gases from the engine.

In calorific value per unit of weight the gas is not inferior to gasoline, and even has a higher octane number. There is practically no change in the power of the engine when it is converted from gasoline to gas. The engine does not knock and wear is reduced.

The gas installation for the Pobeda automobile consists of a gas cylinder placed in the trunk compartment and equipped with a control-safety valve, an outlet valve, and a charging valve. The outlet valve should be located on the lower side of the cylinder when the cylinder is installed.

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The liquid gas goes from the cylinder through the outlet valve into the fuel line. It then goes through the fuel line shut-off valve into the water vaporizer. Here the liquid gas is transformed into vapor form, after which it goes into the reducing valve, where the excess gas pressure is lowered to 10-20 millimeter water gauge.. Then, under the influence of the rarification created by the engine, the gas enters the carburetor-mixer, where it is mixed with air.

The control-safety valve on the gas cylinder prevents the cylinder from being filled to more than 90 percent of capacity, and also prevents the pressure limit from being exceeded. The reducing valve is of simple single-stage design.

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